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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/668,925	09/23/2003	Robert L. Canella	2269-4322.1US (MUEI-0542.	3353

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EXAMINER	
NGUYEN, DONGHAI D	
ART UNIT	**PAPER NUMBER**
3729	

DATE MAILED: 12/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/668,925	CANELLA, ROBERT L.	
	Examiner	Art Unit	
	Donghai D. Nguyen	3729	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7,9-13 and 18-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-7,9-13 and 18-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *9/12/05 & 10/05/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114 was filed in this application after appeal to the Board of Patent Appeals and Interferences, but prior to a decision on the appeal. Since this application is eligible for continued examination under 37 CFR 1.114 and the fee set forth in 37 CFR 1.17(e) has been timely paid, the appeal has been withdrawn pursuant to 37 CFR 1.114 and prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on September 12, 2005 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 6,043,563 to Eldridge et al.

At least claim 1 is anticipated by the Eldridge et al reference (i.e., see Figs. 5B, 6A-B and 7A-B) depicts a method of fabricating a substrate assembly comprising: providing a substrate (552 or 604 or 702, see Figs. 5B, 6B and 7B) having a first surface and an opposing second surface; forming a layer of resilient conductive material (560 or 602 or 720) on at least a portion of at least one of the first and second surfaces of the substrate; forming at least one electrically isolated spring-biased electrical contact (564 or 602a or 734) and an associated elongate

conductive trace (556 or 606 or 726) extending therefrom from the layer of resilient conductive material (560 or 602 or 720); deforming at least a portion of the at least one electrically isolated spring-biased electrical contact to extend away from the at least one of the first and second surfaces of the substrate (See Figs. 5B, 6B and 7B show the spring contacts are bent); and treating the layer of resilient conductive material after forming the at least one electrically isolated spring-biased electrical contact to permanently enhance strength and elasticity of a portion of the resilient conductive material comprising the at least one electrically isolated spring-biased electrical contact (See, Col. 21, lines 66-67).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-3, 6, 7 and 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 5,632,631 to Fjelstad et al in view of Eldridge et al.

Regarding claim 1, Fjelstad et al disclose a method of fabricating a substrate assembly comprising: providing a substrate (40, Fig, 3 or 300 see Fig. 14) having a first surface and an opposing second surface; forming a layer of resilient conductive material (100 or 302) on at least a portion of at least one of the first and second surfaces of the substrate; forming at least one electrically isolated spring-biased electrical contact (22 or 310) and an associated elongate conductive trace (26/308) extending therefrom from the layer of resilient conductive material

(100/302); deforming at least a portion of the at least one electrically isolated spring-biased electrical contact to extend away from the at least one of the first and second surfaces of the substrate (See Figs. 13-14); Fjelstad et al do not teach treating the layer of resilient conductive material. Eldridge et al teach the step of treating the layer of resilient conductive material (spring contacts 22 or 312) for enhancing strength and elasticity of a portion of the resilient conductive material (See, Col. 21, lines 66-67). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Fjelstad et al by treating the resilient conductive material as taught by Eldridge et al for enhancing the mechanical characteristic of electrical contact.

Regarding claims 2 and 3, Fjelstad et al disclose the step of providing and bonding a laminate sheet (20/100) of said resilient conductive material the substrate (40) by adhering or bonding using a thermocompression bonding process (laminating Col. 11, lines 49-50).

Regarding claims 6 and 7, Fjelstad et al disclose at least one via (46) in said substrate (40), said at least one via underlying said at least one electrically isolated spring-biased electrical contact (42) and a via opening only to said at least one of said first and second surfaces of said substrate (Fig. 2).

Regarding claims 9-11, Fjelstad et al disclose the forming at least one contact element (34/324) on a surface of electrical contact surface (22/310, see Fig. 2, 13) by etching (Col. 8, lines 25-28).

Regarding claim 12, limitation of this claim is shown in detail in Figs. 3 and 15 of the Fjelstad et al reference.

Regarding claim 13, Fjelstad et al disclose etching the resilient conductive material to form at least one electrical contact (22/310) and an associated elongate conductive trace (26/308 see Figs. 3-8 and 14).

Regarding claims 18-22, Fjelstad et al disclose a dielectric layer (518) overlying said layer of resilient conductive material (510/532, See Figs. 17-21), said dielectric layer being formed with at least one aperture having frustoconical configuration (752) substantially aligned with said electrical contact (532) and the dielectric layer to be of sufficient thickness to encompass at least a portion of each lead element (562) of an integrated circuit device (560) contacting said at least one electrically isolated spring-biased electrical contact (Fig. 21).

6. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fjelstad et al in view of Eldridge et al as applied above, and further in view of US Patent 4,950,173 to Minemura et al.

Fjelstad et al or Eldridge et al as modified and relied upon above do not teach forming resilient conductive material by using chemical vapor deposition (CVD) or sputtering. Minemura et al teach the forming of resilient conductive material by CVD or sputtering (see the discussion at Col. 5, lines 4-12) for obtaining a good resilient conductive material on the substrate. Therefore, it would have been oblivious to one having ordinary skill in the art at the time the invention was made to have provided the modified invention of Fjelstad et al/Eldridge et al the teaching of forming the resilient conductive material on the substrate by CVD or sputtering as taught by Minemura et al as so to form the resilient conductive material and the substrate having good bonding characteristics.

Response to Arguments

7. Applicant's arguments with respect to rejected claims have been considered but are moot in view of the new ground(s) of Non-Final rejection. Further, Applicant argues that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Eldridge et al reference teaches the spring contact elements, "resilient conductive material" to enhance their mechanical characteristics in Col. 21, lines 66-67.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donghai D. Nguyen whose telephone number is (571)-272-4566. The examiner can normally be reached on Monday-Friday (9:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter D. Vo can be reached on (571)-272-4690. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DN
December 7, 2005

MINH TRINH
PRIMARY EXAMINER